IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
ROBIN R. ODER, ET AL.	)	
	)	
Serial No. 09/514,048	)	
	)	
Filed: February 25, 2000	)	METHOD AND APPARATUS FOR
	)	SEPARATING MATERIAL
Art Unit: 3725	)	
	)	
Patent Examiner:	)	
	)	
William Hong	)	

Pittsburgh, Pennsylvania 15213

September 26, 2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

I, Robin R. Oder, hereby declare that:

I am a co-inventor of the above-identified patent application.

I have assigned my entire right, title and interest in the above-identified patent application to EXPORTech Company, Inc.

I have an ownership interest in EXPORTech Company, Inc.

I have a Ph.D. in Physics.

I graduated from MIT.

I have worked in commercial separation science and technology for over 30 years.

I am an inventor of 15 United States Patents.

I am a co-author of the prior art reference cited by the examiner against the above-identified patent application, "Coal Cleaning at Pulverized-Coal Fired Power Plants" (hereinafter, "Coal Cleaning").

I contributed to the design and development of the ParaTrap separator described in Coal Cleaning.

The ParaTrap separator repeatedly clogs during operation if sufficiently magnetic particles are present in the feed.

The ParaTrap separator does not operate continuously if sufficiently magnetic particles are present. Coals of all ranks have particles which are magnetic enough to clog the ParaTrap separator.

During operation of the ParaTrap separator, myself and fellow employees had to hand feed the coal into a cone 14 so we could stop feeding the coal into the cone 14 when a gap 15 between the poles 17 became plugged.

A sketch of the feed arrangement to the ParaTrap separator is shown in the attached FIG.15 taken from U.S. Patent 5,017,283, of which I am a co-inventor. After crushing and screening, the particles are fed into cone 14 from which they fall into the gap 15 between the poles 17 of the electromagnet 12. The particles are deflected horizontally as they fall through the gap between poles. Diamagnetic particles are pushed into regions of low magnetic field strength (the back and front regions where the pole opening is greatest in FIG. 17) and paramagnetic particles are pulled into regions of high field strength (the region A of FIG. 17 where the pole opening is smallest). The falling streams of particles are separated into magnetic isolates in the splitter 10 at the exit on the bottom of the poles.

When particles that are sufficiently magnetized are present in the feed to the separator, however, they stick to the poles at the entrance to the separator at the top. Enough particles sticking can disrupt flow. If the concentration of magnetic particles is high or if a large amount of coal containing a small concentration of strongly magnetic particles is to be processed, then the particle buildup on the poles will eventually bridge the gap 15 between the poles 17 and plug the flow path and stop the flow all together. When plugging occurs, the electromagnet must be turned off and the particles released by brushing the poles to clean the flow path.

This is exactly what was occurring in the time of Coal Cleaning. The separation mechanism claimed in the above-identified patent application does not exhibit clogging as does the ParaTrap separator.

In Coal Cleaning, it states on page 3, minus 8 mesh dry coal was fed into the ParaTrap. On page 22, lines 4- 11, of the above-identified patent application it states that minus 8 mesh particles were fed to the magnetic separator 13. Accordingly, essentially the same size coal was fed into the separation mechanism of the above-identified patent application and the ParaTrap separator.

I, along with my fellow employees worked for years to figure out how to connect the pulverizer and the separation mechanism of the above-identified patent application so they could operate together without clogging or breaking down. The examiner's statement that it would be obvious to connect the pulverizer and the separation mechanism and achieve a throughput of at least 100 lbs./hr, as found in the claims as amended, is completely unrealistic. For example, we had to figure out how to convey the material from the pulverizer to the separation mechanism while maintaining minimum length, avoiding dusting problems, and providing for fire safety. There was too much dust in the initial designs to connect the pulverizer and the separation mechanism. Our initial designs of trying to build the separation mechanism as part of a pulverizer had to be abandoned because there was not enough thickness of iron in the walls of the pulverizer to carry the magnetic flux. We had to learn how to withdraw enough sample from the inside of the pulverizer to have a major effect on the

pulverizer product without adversely affecting the internal flow of particles of air inside the pulverizer. At the same time, we had to learn how to get the material through the wall of the pulverizer safely. Explosions and fire are major problems.

Accordingly, the ParaTrap of Coal Cleaning could not simply be connected to the grinder taught by Coal Cleaning because the ParaTrap constantly clogged, and if the material was not fed into the separator by hand, but instead with some type of automatic device, like that found in the above-identified patent application, the material would pour out over the sides and all over the floor when the ParaTrap became clogged.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

9/30/03
Date

Robin R. Oder
Robin R. Oder

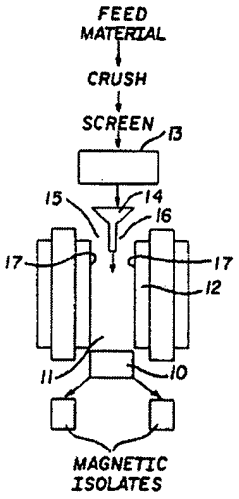

FIG. 15

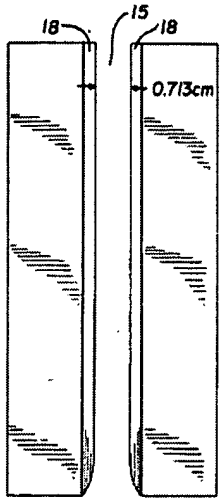

FIG. 16

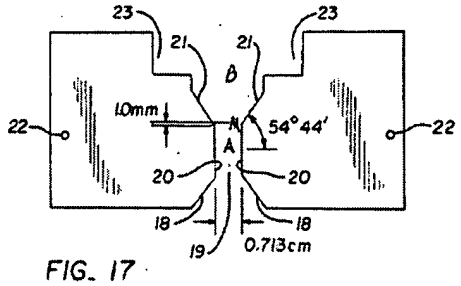

FIG. 17